

U.S. Application No.: 10/781,304
Amendment A
Reply to Office Action Dated 1/16/07

MAR 27 2007

ATTORNEY DOCKET NO.: 3926.067

REMARKS

Claims 21-40 are pending in the application. Claims 21-40 have been amended. Claims 1-20 have been previously cancelled. Claims 33-40 have been withdrawn and rejoinder thereof has been requested.

Applicants would like to first briefly review the present invention.

3D binder printing processes are known. However, the known 3D binder printing processes have the disadvantage that the powder particles frequently agglomerate during dispensing from the dispensing device and during layering on the substrate. In general, there is found on the layer, besides the primary powder particles, also more or less large agglomerates, which lead to uneven powder layers and defects in the bodies formed therefrom.

The object of the present invention is to provide a process for production of powder layers which are substantially agglomerate-free and also as thin and homogenous as possible.

To achieve the above object, the present invention provides a process for layer-by-layer production of a three dimensional body, including repeating the sequence of steps:

- applying a layer of powder particles, by means of a dispensing device, upon a substrate;
- subjecting the powder particles to ionized particles (7) produced by an ionizing device (6) during falling of the powder particles onto the substrate;
- brushing the applied layer flat by a flattening device (8);
- activating, in defined areas of said layer, an adhesive present on the powder particles and/or in the powder particle layer;
- solidifying the activated adhesive to adhere powder particles to each other within the layer and to the substrate; and

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- providing at least one further ionizing device (6') associated with the flattening device (8), the further ionizing device (6') exposing the applied powder particles to further charged particles (7').

Response to Election

The Examiner maintained the election/restrictions requirement and made the requirement final.

Claims 33 and 39 have been amended to refer to claim 21. Since now withdrawn claims 33-40 are dependent on claim 21 or otherwise include all the limitations of claim 21, rejoinder and consideration of claims 33-40 are requested

Claim Rejections - 35 U.S.C. § 103

Claims 21-32 are rejected under 35 USC 103(a) as being unpatentable over Jang et al. (US 5,936,861).

Claim 21 has been amended to include the limitation "providing at least one further ionizing device (6') associated with the flattening device (8), the further ionizing device (6') exposing the applied powder particles to further charged particles (7')." The further ionizing device (6') can prevent any new charging of the powder particles due to rubbing (see paragraph [00014] of the specification). This feature is not disclosed by Jang et al.

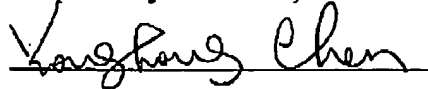
Claim 21 is, therefore, believed to be patentable over Jang et al. and since claims 22-32 are ultimately dependent on claim 21, they are believed to be patentable as well.

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Favorable consideration and early issuance of a Notice of Allowance to all the claims are respectfully requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Respectfully submitted,



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